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Interim Charge 1: H.B. 1325

The world of marijuana in Texas turned upside down on June 10, 2019, the day the legal definition changed to align with the new verbiage used in the Federal Farm Act. Before I share with you some of the things we have learned since then and some potential solutions, let's look back at how we ended up in a place where prosecutors statewide struggled to enforce marijuana laws.

Texas had to change its law to allow Texas farmers to grow hemp and ensure the state's laws did not conflict with those of the federal government. By passing the law, Texas was also able to write its own regulatory rules and open the door to a whole new source of revenue for farmers, one which until then would have been illegal. The products manufactured from hemp, including a variety of trendy CBD items, created even further potential for tens of millions of dollars _ and even more _ of additional revenue for the state.

But while most everyone else was seeing dollar signs, crime lab personnel like myself, were seeing issues that could _ and did _ upend marijuana enforcement statewide. At the time, I and others warned that the new definition of marijuana, the plant Cannabis sativa L. or a product derived from that plant with a concentration of delta-9-tetrahydrocannabinol (THC) greater than 0.3 percent, made it impossible for crime laboratories to differentiate between marijuana and hemp, which would be defined as anything with a concentration of 0.3 percent THC or less. Up until then, law enforcement officers could testify that an item was consistent with marijuana based on their years of experience and the smell. But hemp and marijuana come from the same plant. They smell the same. Once harvested, they largely look the same. The new law meant any prosecution of marijuana charges would have to be accompanied by a laboratory test to distinguish between illegal marijuana and legal hemp.

Crime labs knew they didn't have the methods in place to do this. They weren't sure they had the necessary instruments. They knew it would take time to get a method validated and implemented. In that time, multiple prosecutors across Texas refused to accept marijuana charges without a laboratory test. Prosecutors dismissed hundreds of misdemeanors. Felonies sat on shelves waiting either for someone to decide whether to pay a commercial laboratory hundreds, and possibly thousands, of dollars to do the required testing. Or was it more appropriate to wait for the local crime laboratory to have this ability? Each county, each city, each municipality handled the situation differently. Rolling 20 joints in Harris County on a crowded street corner in front of the courthouse in 2019 would probably be overlooked. Who could prove it was marijuana anyway? But in El Paso, marijuana prosecutions continued as usual, with or without a lab test.

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Finally, 15 months after the law was enacted three major state crime laboratories _ the Texas Department of Public Safety, the Harris County Institute of Forensic Sciences and my laboratory _ finally came up with a semi-quantitative testing method that could be used on **PLANT MATERIAL ONLY.** Seven others are interested in validating similar methods for their laboratories and have already requested control samples of marijuana from the federal agency that supplies those. But the method is limited:

1) It cannot be used on waxes, dabs, edibles, oils, vape materials or anything else that is not a plant.
2) It measures whether a plant material has more or less than 1 percent THC but does **NOT** provide a specific concentration.
3) More precise testing currently requires samples to be sent to a commercial laboratory at a cost of hundreds of dollars per sample.
4) The testing takes far longer than previous analysis, which only determined whether a product was Cannabis sativa L. and if it had cannabinoids, not a specific one or how much. This increases turnaround times.

And, as three of the largest public laboratories in the state devoted precious resources to build a method that would provide accurate, credible results that could be presented and defended in court, staff uncovered more problems with the law. Some of it we already knew or had an inkling. Some became apparent while validating the method we had chosen, which we based on one validated previously by the U.S. Drug Enforcement Administration (DEA.)

A few of the problems we already know about:

1) Crime laboratories that serve the largest urban areas in Texas are unable to do sufficient testing on non-plant materials suspected of having THC concentrations of more than 0.3 percent. This happens at a time when edibles, dabs, waxes, shatters, oils and a slew of other non-plant materials flood the market, many aimed at our children and marketed as healthy CBD products. This is not because it is technically beyond the laboratories' abilities, rather it is an issue of resources and clarity of the legal definitions to be able to establish validated and reliable testing.
2) The law currently says the products should be analyzed based on "dry weight." But what does this mean? At a crime laboratory, marijuana plants are often dried to prevent molding and preserve the integrity of the evidence. Considering that the drier the plant is the higher the percentage of THC will appear, how dry is dry? And what is dry weight in a non-plant product, such as an oil, a wax or an edible?
3) Now, hemp and marijuana are both narrowly defined as products of the Cannabis sativa L. plant and the THC concentration is based on the specific delta-9 isomer. However, there is no real difference between Cannabis sativa and other varieties such as Cannabis indica, for example. So, by defining the law so narrowly, questions may arise about the legality of products that purport to be from the Indica variety regardless of THC concentration. And what about products that arrive with delta-8, delta-10 and other THC isomers that are apparently synthetic? Are those legal because the definition in the law is narrowly confined

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to delta-9-THC? These are things we often see in the crime laboratory and currently, due to the definition in the law, the control status of these products is unclear, especially since many of the items may lead to substantial impairment.

4) The definition of hemp as the Cannabis sativa L. plant or a product of that plant with a THC concentration of 0.3 percent or less presents a whole other set of problems when we deal with non-plant materials, such as vape products and edibles. Clearly, the Texas legislature did not intend through H.B. 1325 to legalize marijuana or any of the impairing qualities of that drug. However, by subscribing THC concentration as a percent in the world of non-plant products the result is in fact the ability to legally buy and sell impairing products. For example, a 100g cookie that has 10 milligrams of THC will have a concentration of 0.01 percent. Far less than 0.3 percent making this "hemp." But this is a "serving" of THC as defined by Colorado statutes and could still be potentially impairing to an individual who consumed that entire cookie.
5) The law currently states that CBD that originates from legally grown hemp is legal while CBD that is derived from a marijuana plant is illegal. However, crime laboratories _ and really no laboratory _ can know whether CBD in a non-plant product came from a hemp or a marijuana plant.

Clearly, none of this is simple or easy. Cannabinoids have never been and never will be easy to analyze. The entire justice system, including crime laboratories, understand the need to create a mechanism for farmers to legally grow hemp and manufacturers to produce and distribute items derived from those plants. At the same time, the legislation must also be written in a manner that allows for enforcement of existing marijuana laws and provide all parties with the resources necessary to make this possible. Following are some potential solutions:

1) RESOURCES. This is the main need for all public crime laboratories in the state. No matter what, if any, changes are made to the law, the analysis required to differentiate between hemp and marijuana is complex, time-consuming, expensive and difficult. Resource-strapped public crime laboratories have had to divert precious staff and tools to this task in the past 15 months. This takes resources away from other equally important endeavors, including analysis of other drugs, such as opioids and methamphetamine, and other disciplines, such as DNA testing of sexual assault kits. Crime laboratories need funds for additional staff, instruments and to send samples to commercial laboratories for testing when the analysis required for an item is beyond the scope of what can be accomplished in house. Flexibility in this funding is key. The additional resources would allow crime laboratories to buy the most appropriate instrumentation needed to test non-plant materials. No public crime laboratory in Texas currently has this ability and only two have purchased the needed instruments, though they are not yet validated for use on casework. H.B. 1325 passed in 2019 on the premise that it was a purely revenue generating piece of legislation. It remains revenue generating, but there must be an investment on the front end for crime laboratories if it is to also be effective in its intent, which is to make hemp legal and for marijuana to remain illegal.

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2) Dry weight: For plant materials, differentiating between hemp and marijuana products in the law may resolve the problem. For example, the legislation could be tweaked to clarify that forensic laboratories will use the weight "as received" and dry materials for the purposes only of preserving the integrity of the evidence.
3) Cannabis plants have been so cross cultivated over the years as to make the differences between the varieties, such as Sativa and Indica, almost irrelevant. The legislation, however, does not account for this and the narrow definition, likely inadvertently, allows for an argument to be made that an "Indica" or "ruderalis" plant, regardless of THC concentration, may in fact be legal. For all involved, especially crime laboratories, broadening the definition to simply define marijuana and hemp as the Cannabis plant or derivatives of Cannabis plants would be far more effective.
4) Crime laboratories are also seeing more products that have isomers of THC other than delta-9. This makes it difficult to determine whether an item is controlled or uncontrolled if legality is based solely on the presence and concentration of delta-9-THC. To overcome this problem, the legislation could be updated to clarify the legal status of other THC isomers regardless of the presence or absence of delta-9-THC.
5) Determining weight in non-plant materials can be more complex, however, other states have created "dosages" or "serving sizes" that are especially applicable to edibles, which are always more difficult for analysis. In Colorado, a THC serving size in an edible product is 10 milligrams while in Oregon it is 5 milligrams. This is enough THC to cause psychotropic effects. In Texas, edible hemp products should likely not have more than 1 milligram of THC per labeled serving if the goal is to keep impairing THC products illegal. This would both assist manufacturers attempting to create hemp-based products that have non-impairing, low-THC concentrations and crime laboratories that are essentially being asked to determine whether the amount of THC in a sample could cause impairment.
6) Finally, the only real way to know whether a product originates in a hemp or a marijuana plant is to have a workable tracking mechanism in place. The legislation as passed does require paperwork for transport and other items, but once a product has been distributed to a store or a retailer, there is no clear indication whether the item was derived from hemp or marijuana. A tracking mechanism could require specific labeling on manufactured items. It could also include a requirement for people to have "proof of possession" detailing the origin of the item. Failure to have this labeling and proof of possession would be a fineable offense.

The landscape for marijuana and hemp is complex, varied and challenging. And while forensic practitioners knew when H.B. 1325 was making its way through the legislature during the last session that this was a complex field, the past year has really shown just how much more challenging it is than we initially anticipated. At this time, three public laboratories can test plant materials, but it will be at least a year before we know and establish norms for that analysis. By addressing the issues in the current law, public crime laboratories will be better able to fulfill their duties to the justice system.

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